

THREE NEW SOUTH AMERICAN SPECIES OF MARSDENIA (ASCLEPIADACEAE)

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Recent examination of plant collections from Brasil and Ecuador has revealed the presence of three species of Marsdenia new to science. Infrageneric placement of these species follows the scheme of Rothe (Engl. Bot. Jahrb. 52: 354-434. 1915.).

MARSDENIA ECUADORENSIS Morillo & Spellman, sp. nov.--figure 1.

Plantae scandentes cum caulibus glabris vel glabratis; foliis latis ovatis vel ellipticus, omnino glabris; inflorescentia umbelliformis; calyx lobis ovatis, extus puberulentis; corolla campanulata, alba, lobis latis ovato-triangularibus, omnino glabris; gynostegio rostrato, rostro crasso conico; corona lobis tenuibus, carnosius, latis oblongo-ellipticis, omnino adnatis antheris.

Slender vines. Stems glabrous or glabrate, developing a corky bark with age. Leaves broadly ovate to elliptic, rounded to slightly cuneate basally, rounded and abruptly acute at the apex, glabrous above and below, 9-14 cm long, 6-11 cm wide; petioles puberulent, 1.5-2 cm long; clusters of small glands present in leaf axils and at juncture of blade and petiole. Inflorescence a subaxillary umbelliform cyme, ca. 15-flowered, peduncles thick, corky, glabrous, 4-5 mm long, pedicels puberulent, 2.9-4.3 mm long. Flowers 6-7 mm in diameter; calyx abaxially puberulent, adaxially glabrous, deeply cut, lobes ovate, ca. 3.5 mm long, 2.5 mm wide, slightly convex, margins scarious, ciliate, slightly imbricate at anthesis, a single broad gland within the base of each sinus; corolla campanulate, white, tube 2.5-2.8 mm long, up to 4.7 mm wide at mouth, glabrous outside, and within but for 5 clusters of long retrorse hairs alternating with the stamens, lobes glabrous on both surfaces, broadly ovate-triangular, 2-2.5 mm long, 2.5-3 mm wide, ciliate, imbricate in bud; gynostegium ca. 3.7 mm long, slightly exserted from mouth of corolla, terminated by a short, thick, conical rostrum, anthers subquadrate, ca. 2 mm long, terminated by a broadly rounded membrane ca. 1 mm long which is recumbent upon the rostrum; corona 5-lobate, lobes thin, carnosius, thickest at their margins, depressed in the center, broadly oblong-elliptic, completely attached to anthers except at the margins, ca. 0.9 mm long and wide; pollinia hemiovoid, ca. 0.42 mm long, 0.2 mm wide, translators clavate, ca. 0.14 mm long, corpuscula elongate-triangular, 0.31mm long, 0.1 mm wide. Follicles unknown.

Ecuador: Guayas: 3 km east of Buenos Aires, Elev. ca. 50 m, 28 March 1973. Holm-Nielsen, Jeppesen, Løjtnant, and Øilgaard 2577 (AAU--holotype).

Marsdenia ecuadorensis is placed in Section Pseudomarsdenia. On the basis of floral structure it appears to belong to Subsection Brasiliensis, but differs from other species in that group in having an umbelliform rather than an open cymose inflorescence. It is distinguished from other members of Section Marsdenia by the characters given in the diagnosis.

MARSDENIA ASPLUNDII Morillo & Spellman, sp. nov.--figure 2.

Differt a speciebus affinibus caulibus glabris; folia elliptica, supra glabra, subter minute arachnoidea; calyx lobis extus glabris vel glabratis; corolla lobis oblongis; corona gynostegium excedens.

Climbing vines. Stems round, glabrous, becoming corky with age. Leaves elliptic to narrowly obovate, rounded to cuneate basally, acute or rounded and abruptly acute apically, mostly 9-13 cm long, 4-6 cm wide, glabrous above, sparsely and finely arachnoid beneath; petioles glabrous, 1.5-2.5 cm long, with up to 6 conical glands at juncture of leaf blade and petiole, and a variable number in leaf axils. Inflorescence subaxillary, umbelliform at first, becoming racemose, 5-20-flowered, glabrous throughout, peduncles 10-20 mm long, pedicels 4-6 mm long. Flowers ca. 1 cm in diameter; calyx deeply lobed, abaxially glabrous to sparsely puberulent, adaxially glabrous, lobes widely ovate to suborbicular, 3-3.5 mm long, 2.5-3 mm wide, ciliate, imbricate at anthesis, 1-2 conical glands within each sinus; corolla campanulate, cream to green-yellow, tube 2.5-3 mm long, 3-3.5 mm wide at mouth, glabrous throughout but for small clusters of retrorse hairs inside alternating with stamens, lobes oblong, glabrous throughout, ciliate, spreading to slightly recurved at anthesis, 4-4.3 mm long, 1.8-2 mm wide, imbricate in bud; gynostegium 3.5-4 mm high, terminated by a short conical rostrum, anthers subquadrate, ca. 0.9 mm on a side, terminal membrane oblong, ca. 1.5 mm long, recumbent against rostrum; corona 5-lobed, united only basally, lobes subcarnose at base, becoming membranaceous apically, lanceolate, 4-5 mm long, ca. 1 mm wide, longer than the gynostegium; pollinia hemiellipsoid, ca. 1.27 mm long, 0.24 mm wide, translators narrowly clavate in outline, ca. 0.17 mm long, corpusculum triangular in outline, 0.49 mm long, 0.2 mm wide. Follicles unknown.

Ecuador: Napo-Pastaza: between Tena and Archidona, rivershore, 3 January 1940. Erik Asplund 10217 (S--holotype).

Paratypes: Ecuador: Napo-Pastaza: between Tena and Archidona, thicket on rivershore, 19 October 1939. Asplund 9455 (S). Colombia: Comisaria del Putumayo: Umbria, altitude 325 m, forest, October-November 1930. G. Klug 1788 (MO, NY).

Marsdenia asplundii is placed in Rothe's Section Ruehssia,

subsection Macrophyllae. It differs from all other members of the subsection by the following combination of characters: (1) Stems glabrous. (2) Leaf blades arachnoid beneath. (3) Calyx lobes glabrous or nearly so. (4) Its oblong corolla lobes. (5) Corona prominently overtopping the gynostegium.

MARSDENIA RIPARIA Morillo & Spellman, sp. nov.--figure 3.

Plantae scandentes omnino glabrae; folia lanceolata vel ovata; calyx lobis latis ovatis vel suborbicularibus; corolla campanulata, rufa, lobis oblongo-ellipticis; gynostegio rostrato, rostro subhemispherio; corona carnosae, lobis lanceolatis, inflexis super rostratis; polliniis obovoideis, corpusculo angusto-calceiformi.

Twining vines. Stems smooth, glabrous, with age becoming subquadrangular with short corky protuberances. Leaves lanceolate to ovate, apically acute to acuminate, basally rounded to cuneate, blades 5-7 cm long, 2-4 cm wide, glabrous on both surfaces; petioles glabrous, 0.7-1 cm long, usually with a cluster of 2-5 conical glands at juncture with blade. Inflorescence subaxillary, racemose, glabrous throughout, up to ca. 25-flowered, peduncles 5-13 mm long, pedicels 3-5 mm long, each subtended by a pair of widely ovate bracts which are long-persistent. Flowers ca. 1 cm in diameter; calyx deeply lobed, glabrous throughout, lobes broadly ovate to suborbicular, ciliate, 3.6-3.8 mm long, 2.9-3.6 mm wide, a single digitiform gland within each sinus; corolla campanulate, red-brown, tube 2.5-3 mm long, glabrous outside, glabrous within but for 5 linear clusters of retrorse hairs alternate with the stamens, lobes oblong-elliptic, both surfaces glabrous, ciliate, 4-5 mm long, 3-3.5 mm wide; gynostegium 2.9-3.1 mm high, slightly exserted from mouth of corolla, terminated by a subhemispherical rostrum, anthers subquadrate, terminal membrane subquadrate; corona carnosae, 5-lobed, lobes lanceolate, 2.9-3.1 mm long, 0.7-1.2 mm wide, sharply inflexed near apex and recumbent upon the rostrum, light in color above the point of inflexion, darker below, lobes adnate with anthers in the basal half, and with each other for ca. 0.5 mm from the base; pollinia irregularly obovoid, 0.59-0.68 mm long, 0.27-0.32 mm wide, translators linear, ca. 0.1 mm long, corpuscula narrowly slipper-shape, constricted near base, translator attached at the constriction, 0.55 mm long, 0.14 mm wide above constriction, 0.17 mm wide below constriction. Follicles ellipsoid, smooth, glabrous, ca. 9.5 cm long, 3 cm in diameter; seeds thin, elliptic-ovate, 7.6-8.9 mm long, 4.6-5.4 mm wide, marginal wing entire, ca. 0.6 mm wide, coma 35-40 mm long.

Brasil: Territorio Amapa: Rio Jari, herbaceous twiner in low vegetation on rocky river island. Cachoeiras das Aurucuopatari, 0 28' N, 53 7' W, elev. ca. 120 m, occasional, 18 August 1961. W.A. Egler & H.S. Irwin 46527 (UB--holotype, MO, NY--isotypes).

Paratype: Brasil: Maranhao, Ilha do Botes, duas leguas abaixo do Carolina, Rio Tocantins, 24 May 1950. J.M. Pires & G.A. Black 2008 (MO).

Marsdenia riparia is placed in Section Verlotia, even though it bears an obvious resemblance to M. ulei Rothe which its author placed in Section Pseudomarsdenia. Rothe's reasoning was that M. ulei represented an intermediate between three sections of the genus but was better placed in that section which contained other species which he also considered to be more or less intermediate. Our more recent studies seem to indicate that the decision made by Rothe was rather questionable.

Marsdenia riparia differs from other species of its section in having glabrous rather than barbate corolla lobes, and from other members of the genus by the characters given in the diagnosis.

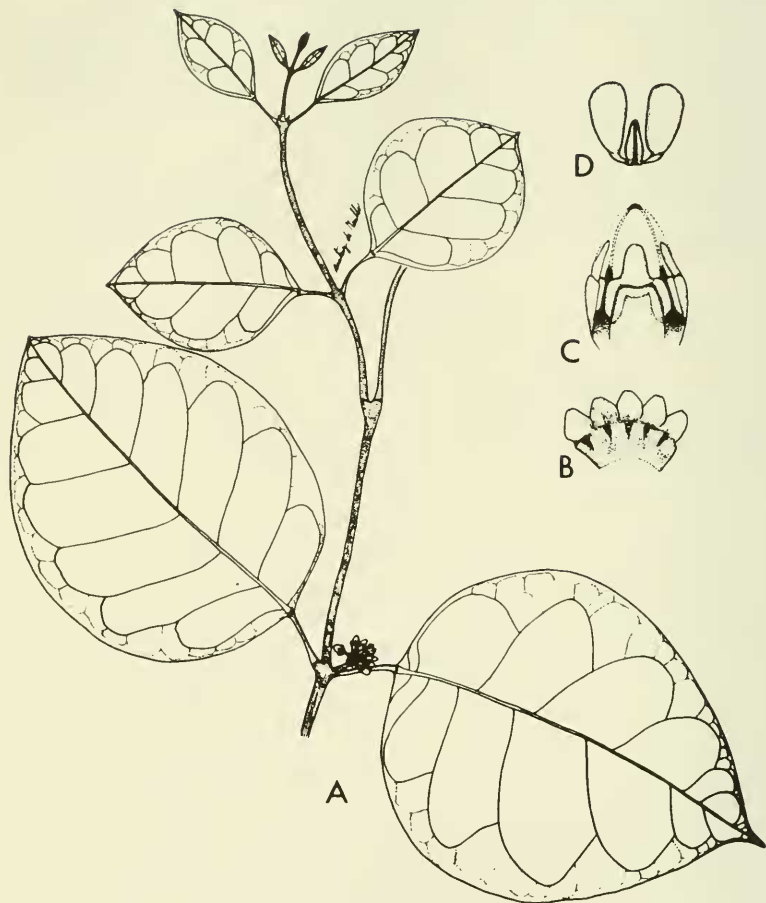


Figure 1. *Marsdenia ecuadorensis*. A. Habit (X0.4). B. Corolla (X 2). C. Corona-gynostegium (X 8). D. Pollinia (X 6). (All figures approximate).

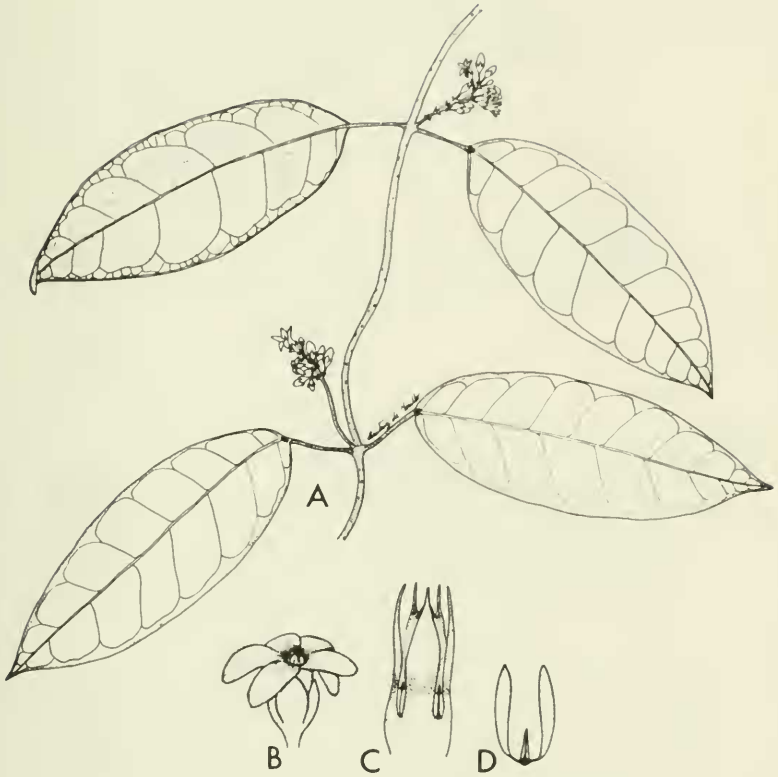


Figure 2. Marsdenia asplundii. A. Habit (X 0.4). B. Flower (X 2). C. Corona-gynostegium (X 4.5). D. Pollinia (X 10). (All figures approximate).

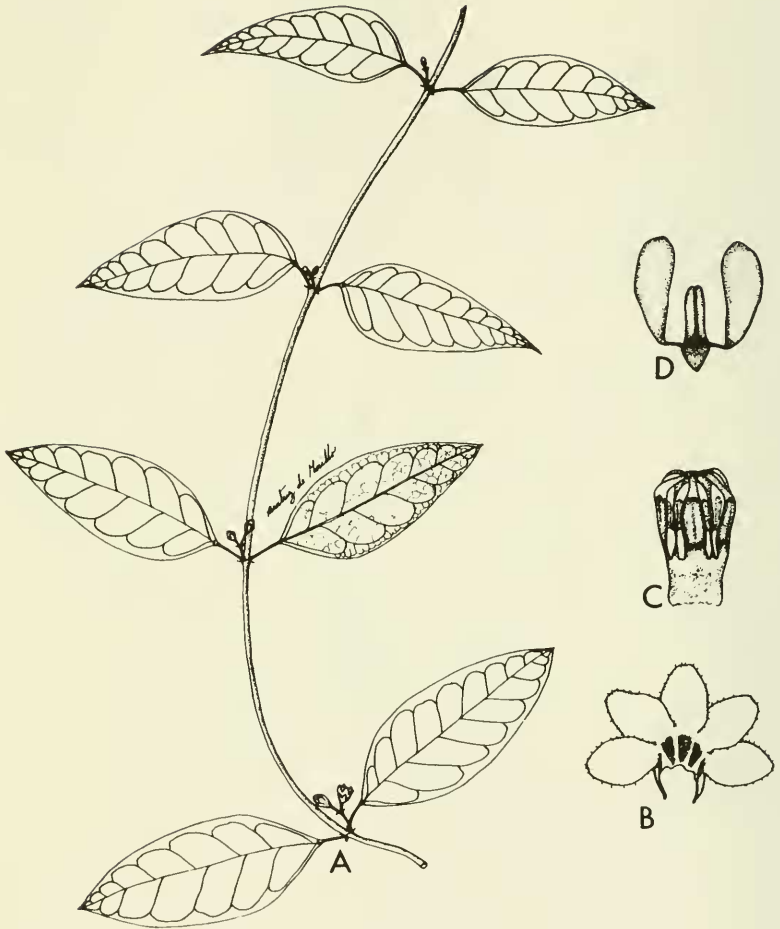


Figure 3. *Marsdenia riparia*. A. Habit (X 0.4). B. Corolla (X 2). C. Corona-gynostegium (X 4). Pollinia (X 20). (All figures approximate).